ORDER NO. AD8805069C8

Service Manual

Cassette Deck

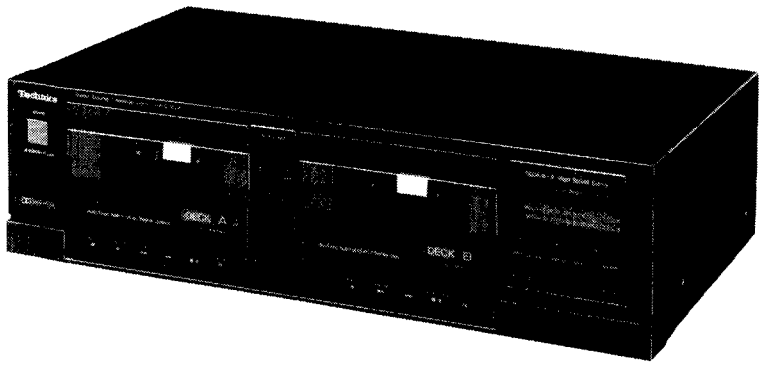
RS-D190W

Dolby NR-Equipped
Stereo Double Cassette Deck

* DOLBY SYSTEM

Color

(K)...Black Type



Area

Color	Area
(K)	(E) .....Continental Europe.
(K)	(EK).....United Kingdom.
(K)	(EG).....F.R. Germany.
(K)	(EH).....Holland.
(K)	(XA).....Asia, Latin America, Middle Near East, Africa and Oceania.
(K)	(XL).....Australia.

SPECIFICATIONS

■ CASSETTE DECK SECTION

Deck system Stereo cassette deck
Track system 4-track, 2-channel
Heads
(DECK A) REC/PLAY Solid Permalloy head
Erasing Double-gap ferrite head
(DECK B) PLAY Solid Permalloy head
Motors
(DECK A) Capstan/reel table drive
2 speed electronically controlled DC motor
(DECK B) Capstan/reel table drive
2 speed electronically controlled DC motor
Recording system AC bias
Bias frequency 80 kHz
Erasing system AC erase
Tape speed 4.8 cm/sec. (1-7/8 ips)
Frequency response (w/o Dolby N.R.)
METAL 20 Hz~16 kHz
30 Hz~15 kHz (DIN)
CrO_2 20 Hz~15 kHz
30 Hz~15 kHz (DIN)
NORMAL 20 Hz~15 kHz
30 Hz~15 kHz (DIN)
S/N (signal level = max recording level, CrO_2 type tape)
Dolby B NR on 66 dB (CCIR)
NR off 56 dB (A weighted)

Wow and flutter (XA, XL) 0.1% (WRMS)
(Except XA, XL) 0.08% (WRMS)
±0.2% (DIN)
Fast Forward and Rewind Time
Approx. 105 seconds with C-60 cassette tape
Input sensitivity and impedance
LINE 60 mV/47 kΩ
Output voltage and impedance
LINE 400 mV/3.2 kΩ

■ GENERAL

Power consumption 18W
Power supply
For Australia and United Kingdom AC 50 Hz/60 Hz, 240V
For continental Europe AC 50 Hz/60 Hz, 220V
For others AC 50 Hz/60 Hz, 110V/127V/220V/240V
Dimensions (W×H×D) 430 × 120 × 228 mm
(16-15/16" × 4-23/32" × 8-31/32")
Weight 3.8 kg (8.4 lb.)

Note:
Specifications are subject to change without notice.
Weight and dimensions are approximate.

* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"Dolby" and the double-D symbol are trade marks of Dolby Laboratories Licensing Corporation.

Technics

Matsushita Electric Industrial Co., Ltd.
Central P.O. Box 288, Osaka 530-91, Japan

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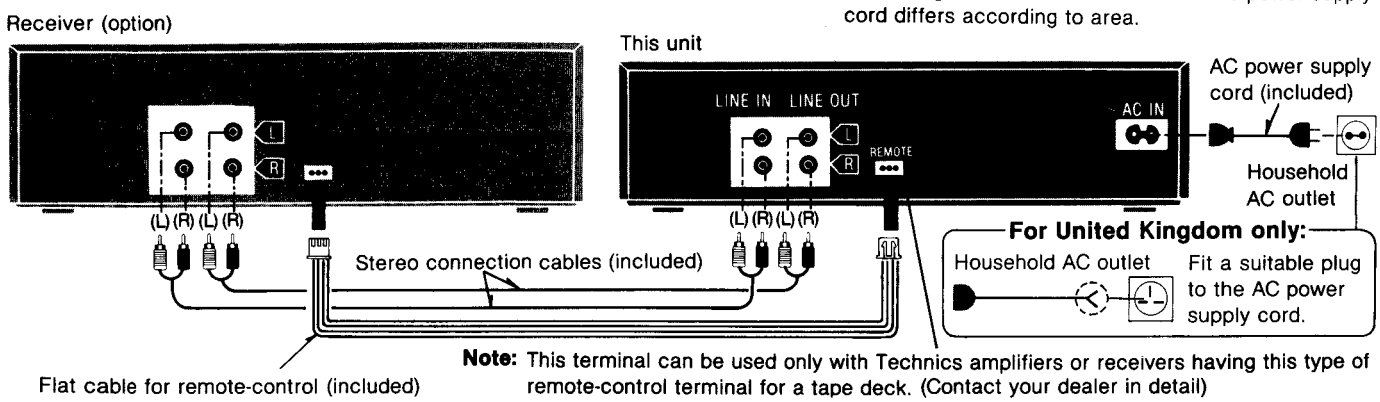
■ HOW TO CONNECTION

Placement Hints

If this unit is placed near a stereo receiver, a "hum" noise may be heard during tape playback, recording, or AM reception of the receiver.
If this occurs, leave as much space as possible between the units, or place them where there is the least amount of "hum".

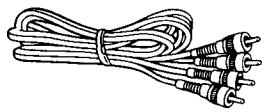
The configuration of the AC outlet and AC power supply cord differs according to area.



Note: This terminal can be used only with Technics amplifiers or receivers having this type of remote-control terminal for a tape deck. (Contact your dealer in detail)

■ ACCESSORIES

- Stereo connection cables 2

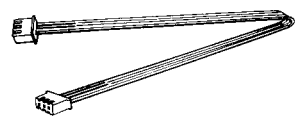


SJP2201

- AC plug adaptor 1

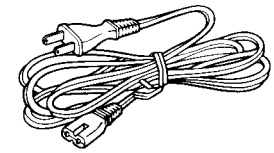
RJP120ZBS-H

- Flat cable for remote-control 1



SWKST11M-1

- AC power supply cord 1



SFDAC05E03.... (E, EG, EH)
SJA188..... (EK)
SJA163..... (XL)
SJA185..... (XA)

D

■ LOCATION OF CONTROLS

• Power "standby ⏻, on" switch (power "standby ⏻, on")
This switch turns on and off the secondary circuit power only. The unit is in the "stand-by" condition when this switch is set to the "standby ⏻" position. Regardless of the switch setting, the primary circuit is always "live" as long as the power cord is connected to an electrical outlet.

Tape-select indicators (Auto Tape Select)
The tape selector setting changes automatically, and the indicator indicates the type of tape being used in "DECK A".

"DECK A" counter/reset button (DECK A counter/reset)
This indicates the amount of tape travel of "DECK A". When this button is pressed, the readout will be reset to "000".

Editing tape-speed selector (editing speed)
Press to select the tape speed for edit-recording.

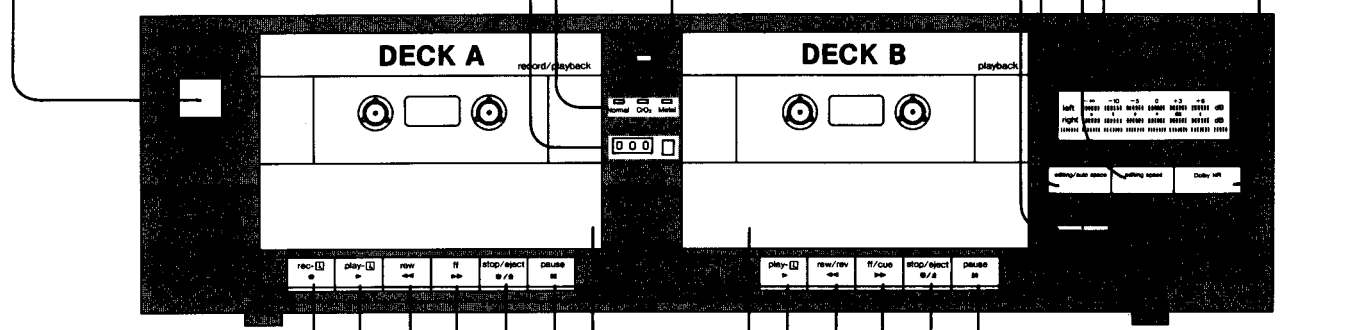
Editing/auto space switch (editing/auto space)

Recording level control (rec level)

Recording indicator (rec indicator)

• Level meters (peak level)
During recording, these meters indicate the recording level. The level is adjusted by using the recording level control. During playback, they indicate the level of the recorded sound.

Dolby noise-reduction switch (Dolby NR)



Record button (rec-⏲ / ●)

Playback button (play-⏲ /▶)

Rewind button (rew/◀◀)

Fast-forward button (ff/▶▶)

Stop/eject button (stop/eject/■/▲)

Pause button (pause/❚❚)

Cassette holder

Cassette holder

Playback button (play-⏲ /▶)

Rewind/review button (rew/rev/◀◀)

Fast-forward/cue button (ff/cue/▶▶)

Stop/eject button (stop/eject/■/▲)
Press this button to stop the tape and to open the cassette holder.

Pause button (pause/❚❚)

■ DISASSEMBLY INSTRUCTIONS

"ATTENTION SERVICER"
Some chassis components may have sharp edges. Be careful when disassembling and servicing.

Ref. No. 1	How to remove the cabinet
Procedure 1	• Remove the 4 screws (❶~❹).

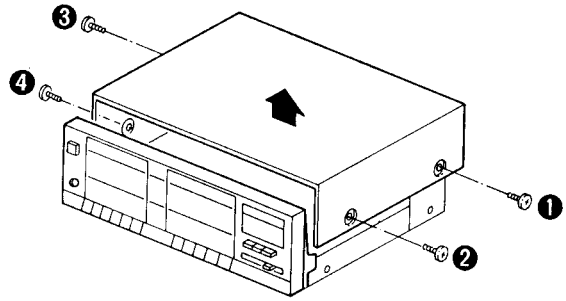


Fig. 1

Ref. No. 2	How to remove the Main P.C.B. and Power Supply P.C.B.
Procedure 1 → 2	1. Remove the 2 screws (❶, ❷). 2. Open the side of back chassis, and then pull down it. 3. Remove the one screw (❸). 4. Remove the 4 tabs aside, and then remove the Main P.C.B. 5. Remove the 3 screws (❹~❻), and then remove the Power Supply P.C.B.

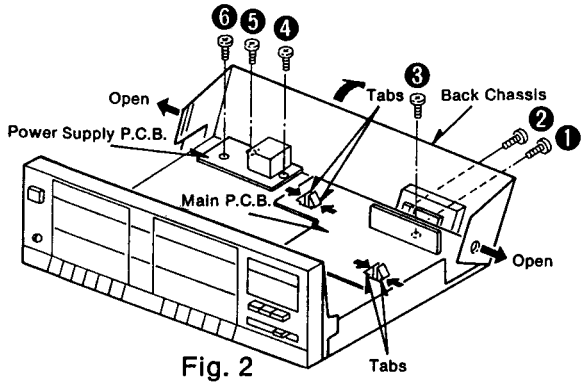


Fig. 2

Ref. No. 3	How to remove the Mechanism unit (DECK A/B)
Procedure 1 → 2 → 3	1. Remove the 6 screws (❶~❻). 2. Remove the counter belt (for mechanism unit of DECK A). 3. Push the eject button, and then remove the Mechanism unit.

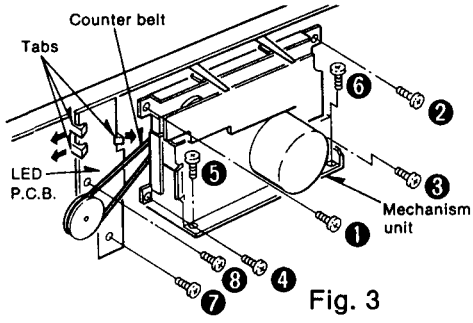


Fig. 3

Ref. No. 4	How to remove the LED meter P.C.B. and VR/SW P.C.B.
Procedure 1 → 2 → 4	1. Remove the 2 screws (❶, ❷). 2. Push the one tab aside, and then remove the VR/SW P.C.B. 3. Remove the one screw (❸). 4. Push the 3 tabs aside, and then remove the LED meter P.C.B.

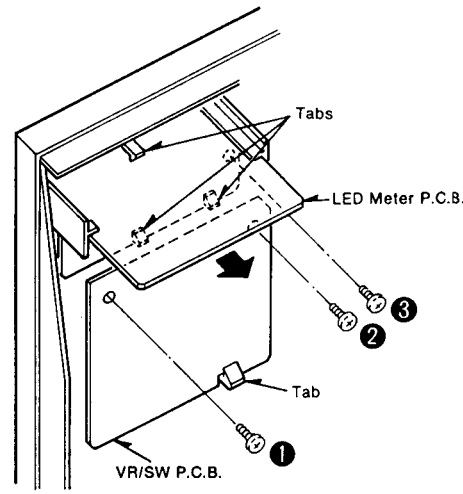


Fig. 4

Ref. No. 5	How to remove the LED P.C.B.
Procedure 1 → 2 → 3 → 5	1. Remove the 2 screws (❼, ❽). (Fig. 3) 2. Remove the 3 tabs aside. (Fig. 3)

Ref. No. 6	How to remove the Front panel
Procedure 1 → 3 → 4 → 5 → 6	1. Remove the 5 screws (❶~❺). 2. Open the sides of Front panel, and then pull it to yourself.

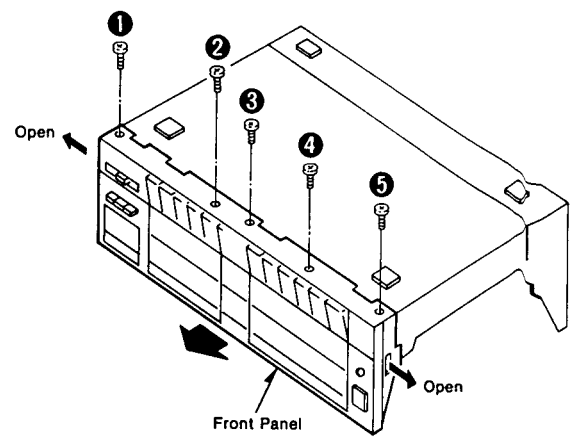


Fig. 5

■ MEASUREMENT AND ADJUSTMENT METHODES

Measurement Condition

- Recording level control; Maximum
- Edit-recording/auto space switch; **Off**
- NR switch; Off
- Editing tape speed **selector; X1**
- Make sure heads are clean
- Make sure capstan and pressure roller are clean
- Judgeable room temperature 20±5°C(68±9°F)

Measuring instrument

- EVM(Electronic Voltmeter)
- Oscilloscope
- Digital frequency counter
- AF oscillator
- ATT(Attenuator)
- DC voltmeter
- Resistor (600Ω)

Test tape

- Head azimuth adjustment (8kHz, -20dB); QZZCFM
- Tape speed adjustment (3kHz, -10dB); QZZCWAT
- Playback frequency response (315Hz, 12.5kHz, 10kHz, 8kHz, 4kHz, 1kHz, 250Hz, 125Hz, 63Hz, −20dB); QZZCFM
- Playback gain adjustment (315Hz, 0dB); QZZCFM
- Overall frequency response, Overall gain adjustment
  Normal reference blank tape; QZZCRA
  CrO_2 reference blank tape; QZZCRX
  Metal reference blank tape; QZZCRZ

HEAD AZIMUTH ADJUSTMENT (DECK A, B)

1. Playback the azimuth adjusted part(8kHz, -20dB) of the test tape(QZZCFM) and regulate the angle adjusting screw so that the outputs of L-CH and R-CH are maximized.
   (When the adjusting positions are different with L-CH and R-CH, find a position where the outputs of L-CH and R-CH are balanced, and then make the adjustment.)
2. At the same time, obtain a lissajous waveform and eliminate phase deflection.
3. After adjustment, lock the tape guide height and angle adjustment screws.

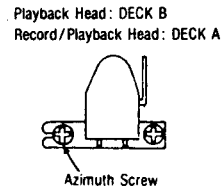


Fig. 1

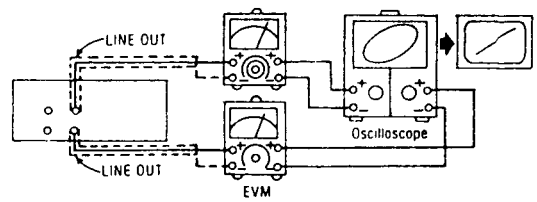


Fig. 2

TAPE SPEED ADJUSTMENT (DECK A, B)

Normal speed

1. Set the editing tape speed selector to "**X1**".
2. Playback the middle part of the test tape (QZZCWAT).
3. Adjust Deck A=**VR802** and Deck B=**VR801** so that the output is within the standard.

High speed

4. Set the editing tape speed selector to "**X2**" and connect the Deck A=**TP1** and **TPN1**, Deck B=**TP2** and **TPN2**.
5. Playback the middle part of the test tape (QZZCWAT).
6. Adjust Deck A=**VR803** so that the output is within the standard.
7. Open the Deck A=**TP1** and **TPN1**, Deck B=**TP2** and **TPN2**.

Standard value: 3000±15Hz (Normal), 6000±600Hz (High)

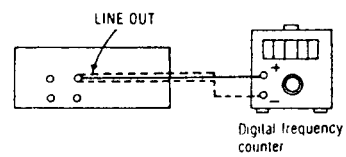


Fig. 3

PLAYBACK FREQUENCY RESPONSE (DECK A, B)

1. Playback the playback frequency response part (315Hz, 12.5kHz~ 63Hz, -20dB) of the test tape (QZZCFM).
2. Check that the frequency is within the range shown in Fig. 5 for both L-CH and R-CH.

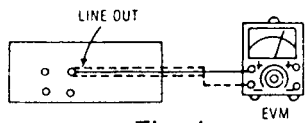


Fig. 4

Playback frequency response chart

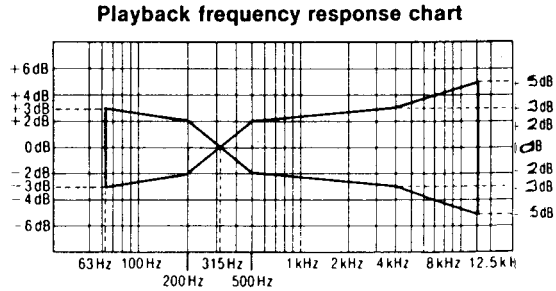


Fig. 5

D

PLAYBACK GAIN ADJUSTMENT (DECK A, B)

1. Playback the playback gain adjusted part (315Hz, 0dB) of the test tape (QZZCFM).
2. Adjust Deck B=**VR1** (L-CH) [[**VR2** (R-CH)]] and Deck A=**VR3** (L-CH) [[**VR4** (R-CH)]] so that the output is within the standard.

Standard value: 0.4V±0.5dB

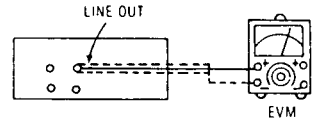


Fig. 6

OVERALL FREQUENCY RESPONSE

1. Insert the Normal blank test tape (QZZCRA) and set the unit to the Record Pause mode.
2. Apply a reference input signal (1kHz, −20dB) through an attenuator.
3. Attenuate the signal by 20dB and adjust the frequency from 50Hz~10kHz.
4. Record the frequency sweep.
5. Playback the recorded signal and assure that it is within the range shown in **Fig. 8** in comparison to the reference frequency (1kHz).
6. If it is not within the standard range, adjust **VR301** (L-CH) and **VR302** (R-CH) so that the frequency level is within the standard range.
7. Repeat steps 2~6 above using the CrO_2 tape (QZZCRX) and the Metal tape (QZZCRZ) increasing the frequency range to 12.5kHz (50Hz~12.5kHz).
8. Assure that the level is within the range shown in **Fig. 9**.

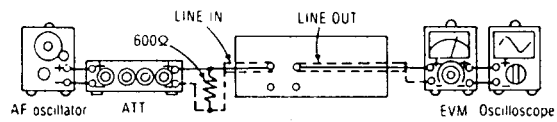


Fig. 7

Normal Overall frequency response chart (NR OUT)

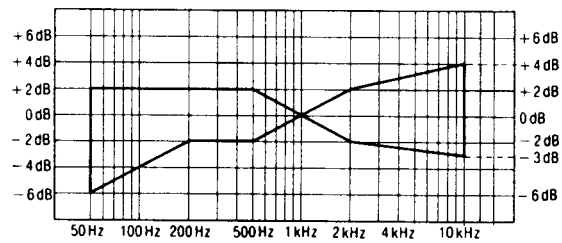


Fig. 8

CrO_2-Metal Overall frequency response chart (NR OUT)

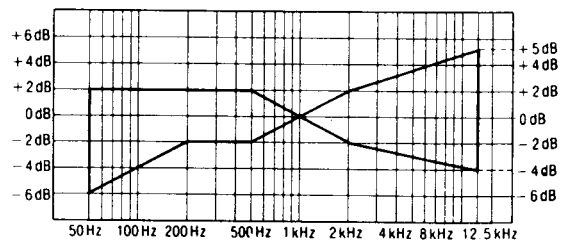


Fig. 9

OVERALL GAIN ADJUSTMENT

1. Insert the Normal blank test tape (QZZCRA) and set the unit to the Record pause mode.
2. Apply a reference input signal (1kHz, −20dB). Attenuate the output so that its level becomes 0.4V.
3. Record this input signal.
4. Playback the signal recorded in step 3 above, and assure that the output is within the standard value.
5. If it is not within the standard value, adjust **VR5** (L-CH) and **VR6** (R-CH).
6. Repeat the step 2~5 above until the output is within the standard value.

Standard value: 0V±0.5dB

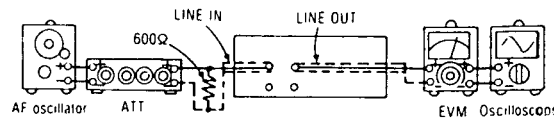
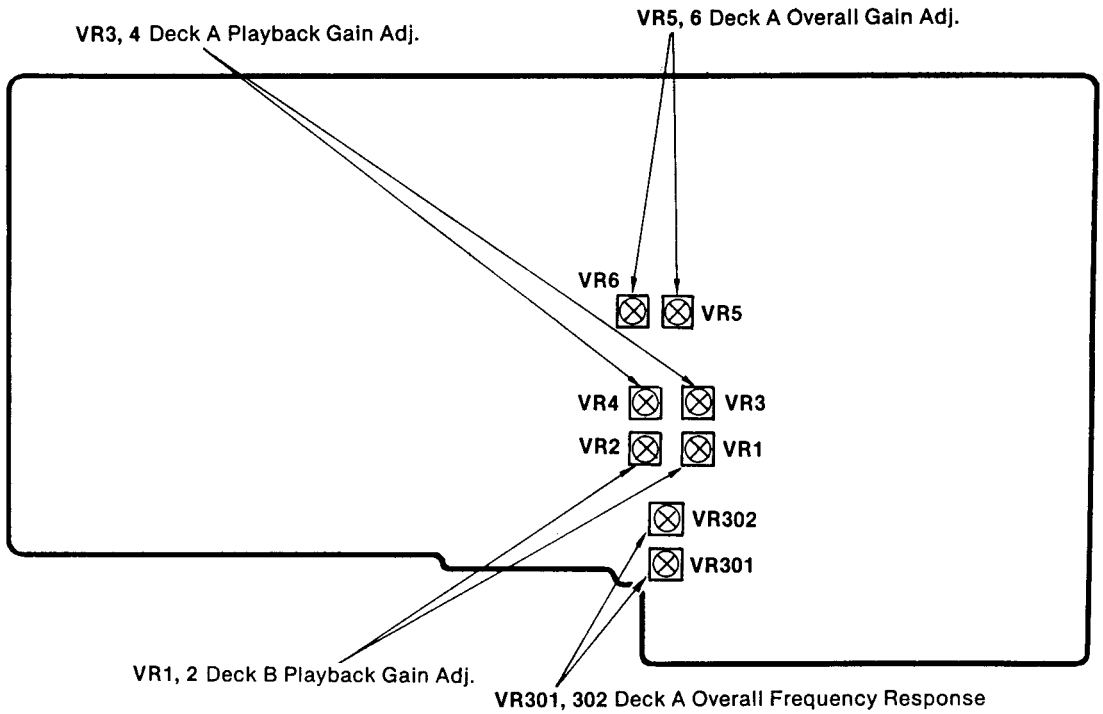


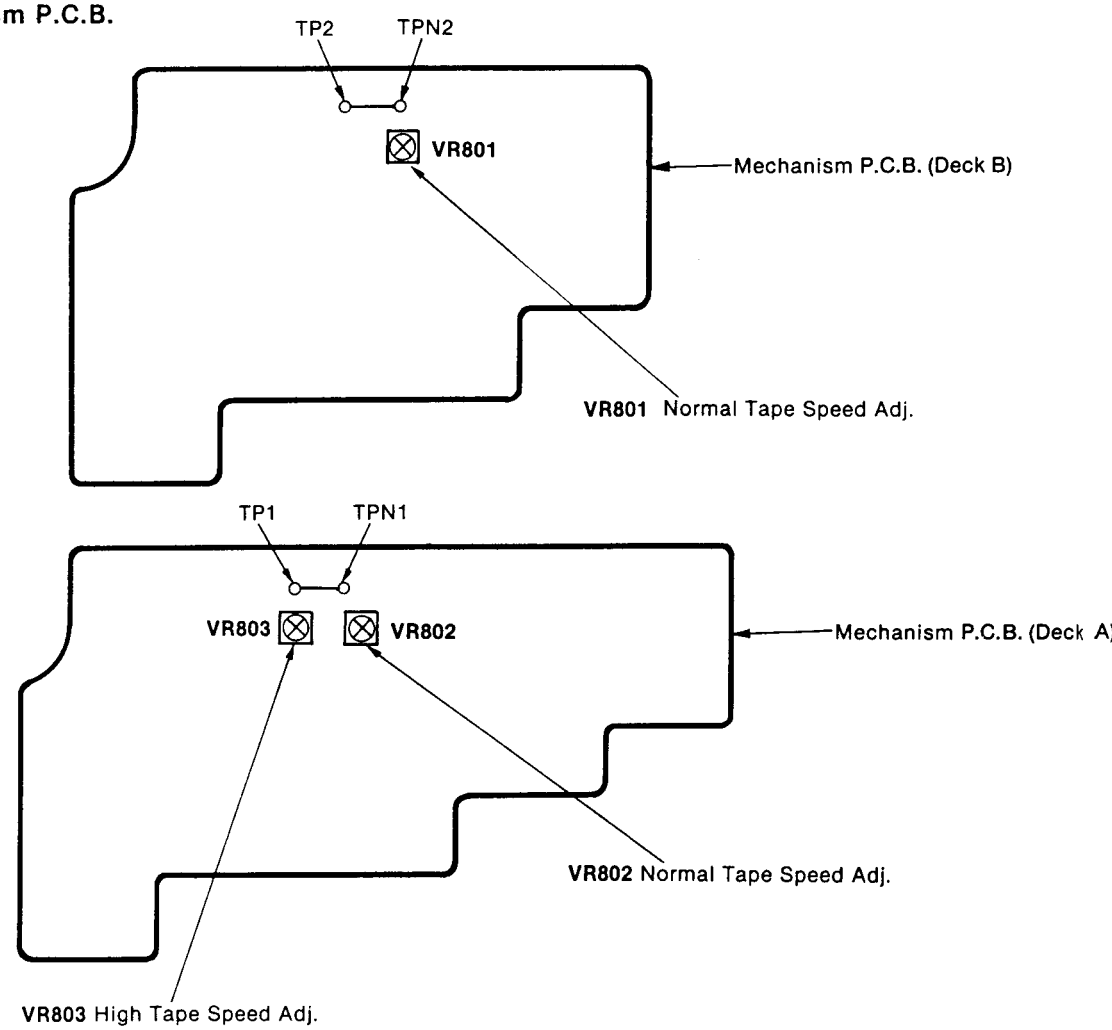
Fig. 10

• Adjustment Points

• Main P.C.B.



• Mechanism P.C.B.



■ MICROCOMPUTER TERMINAL FUNCTION

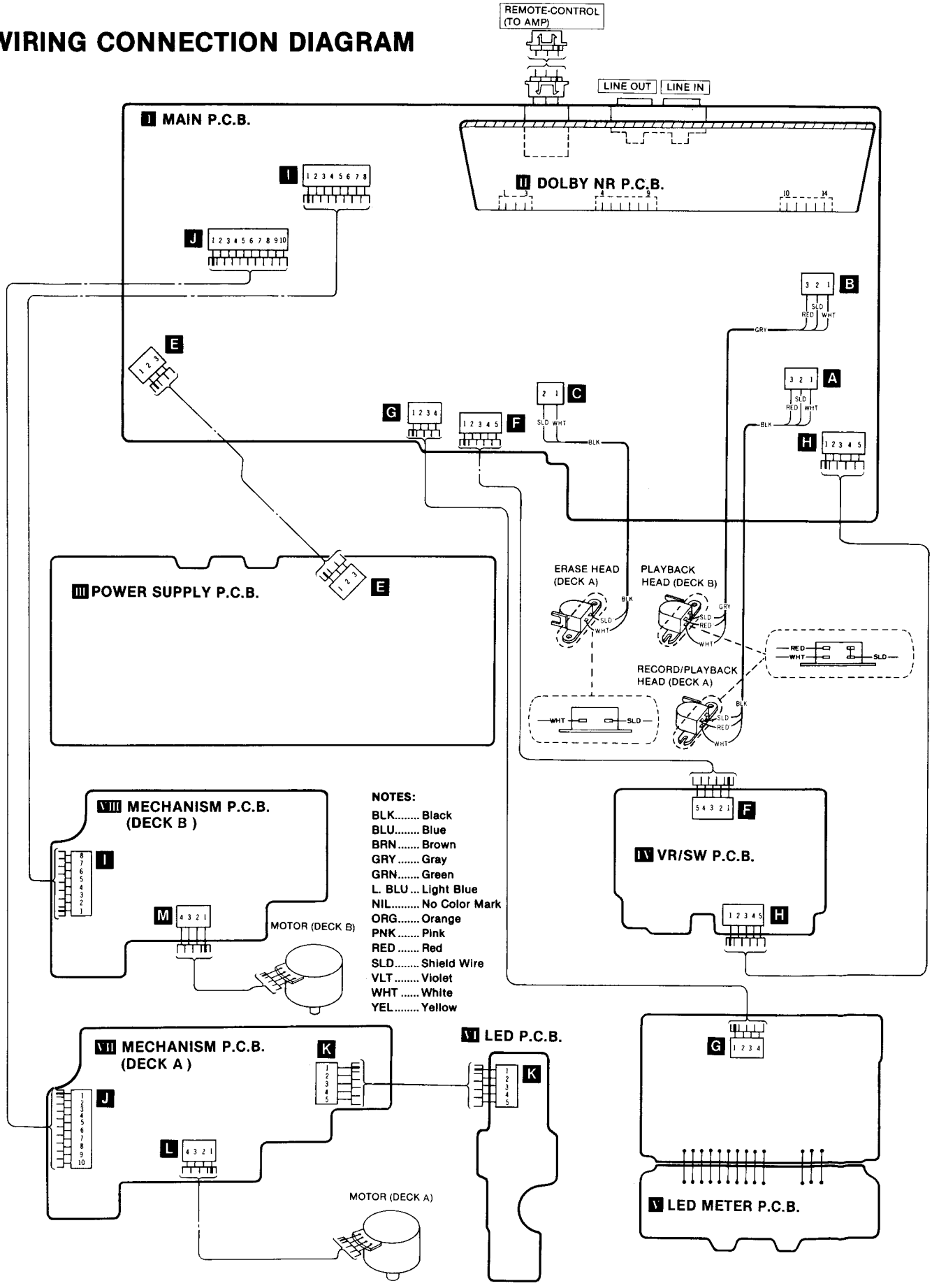
(IC801: MN1402STO)

Terminal No.	Symbol	In/Out	Name	Function/operation
1	V_{SS}	———	———	• Connection to GND.
2	CO9	———	———	• Non connection.
3	CO8	Output	REC Prescript signal output	• "H" when LINE IN is REC mode. • "L" when LINE IN is other mode.
4	CO7	Output	Remote control signal cancellation output	(a) LINE IN REC mode (Deck A). PLAY mode (Deck A, Deck B). } ..."H" (b) EDITING mode (Deck A, Deck B). Except (a) mode. } ..."L"
5	CO6	Output	Direct muting (DMT) signal output	• "L" in mute on (STOP, FF/REW and each selector), "H" in mute off (REC, PLAY). • DMT Output timing of each selector.
6	CO5	Output	Muting off signal output of playback AMP	• Deck B "L" in CUE/REV, "H" in other.
7	AI3	Input	Reading of input switch state deck B auto tape selector (S904)	• "L" when auto tape selector is on mode. • "H" when auto tape selector is off mode.
8	AI2	Input	Reading of input switch state deck B FF/REW (S902)	• "L" when FF/REW switch is on mode. • "H" when FF/REW switch is off mode.
9	AI1	Input	Reading of input switch state deck A, deck B motors (S906, S903)	• DO0 output (Scan A) signal→"L" Deck A... "L" in motor switch on, "H" in motor switch off. • DO1 output (Scan B) signal→"L" Deck B... "L" in motor switch on, "H" in motor switch off.
10	AI0	Input	Reading of input switch state deck A, deck B PLAY (S905, S901)	• DO0 output (Scan A) signal→"L" Deck A... "L" in PLAY switch on, "H" in PLAY switch off. • DO1 output (Scan B) signal→"L" Deck B... "L" in PLAY switch on, "H" in PLAY switch off.
11	BI3	Input	Reading of input switch state editing (S1)	• "L" when editing switch is on mode. • "H" when editing switch is off mode.
12	BI2	Input	Reading of input switch state Tape speed selector (S2)	• "L" when tape speed selector is on mode. • "H" when tape speed selector is off mode.

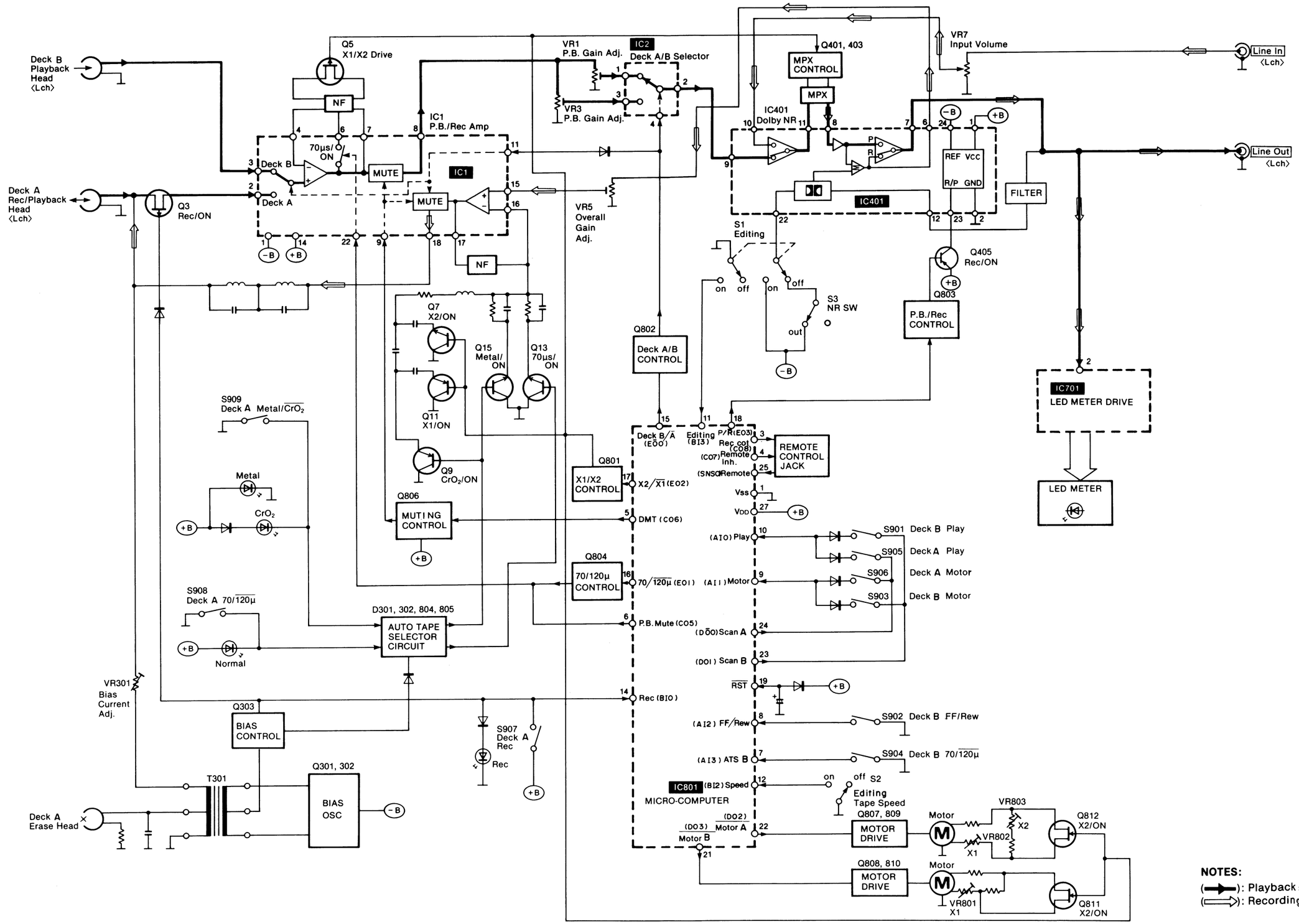
D

Terminal No.	Symbol	In/Out	Name	Function/operation
13	BI1	Input	Reading of input switch state deck A auto tape selector (S908)	• "L" when auto tape selector is on mode. • "H" when auto tape selector is off mode.
14	BI0	Input	Reading of input switch state deck A REC (S907)	• "H" when REC switch is on mode. • "L" when REC switch is off mode.
15	EO0	Output	Mode selector deck A	• "L" in PLAY mode, "H" in other mode.
16	EO1	Output	Playback equalizer (120μs/70μs) selector	• "L" in 120μs mode, "H" in 70μs mode.
17	EO2	Output	Tape speed (X1/X2) selector	• "L" in normal speed (X1), "H" in high speed (X2).
18	EO3	Output	Dolby IC mode selector (REC/PLAY)	• "L" in REC mode, "H" in PLAY mode.
19	$\overline{RST}$	Input	Reset terminal	• Used to reset the microcomputer when power is thrown in. • Reset at "L".
20	TST	——	——	• Connection to GND.
21	DO3	Output	Motor selector deck B	• "H" in motor deck B off, "L" in motor deck B on.
22	DO2	Output	Motor selector deck A	• "H" in motor deck A off, "L" in motor deck A on.
23	DO1	Output	Scan B	• Scan signal for reading of PLAY switch input.
24	DO0	Output	Scan A	• Scan signal for reading of PLAY switch input.
25	SNS0	Input	Remote control signal input	• Input of serial signal from remote control jack.
26	SNS1	——	——	• Non connection.
27	V_{DD}	——	Power supply terminal	• Operative on 5±0.5 volts.
28	OSC	Input	Clock Oscillation	• Clock oscillation of about 300kHz.

■ WIRING CONNECTION DIAGRAM



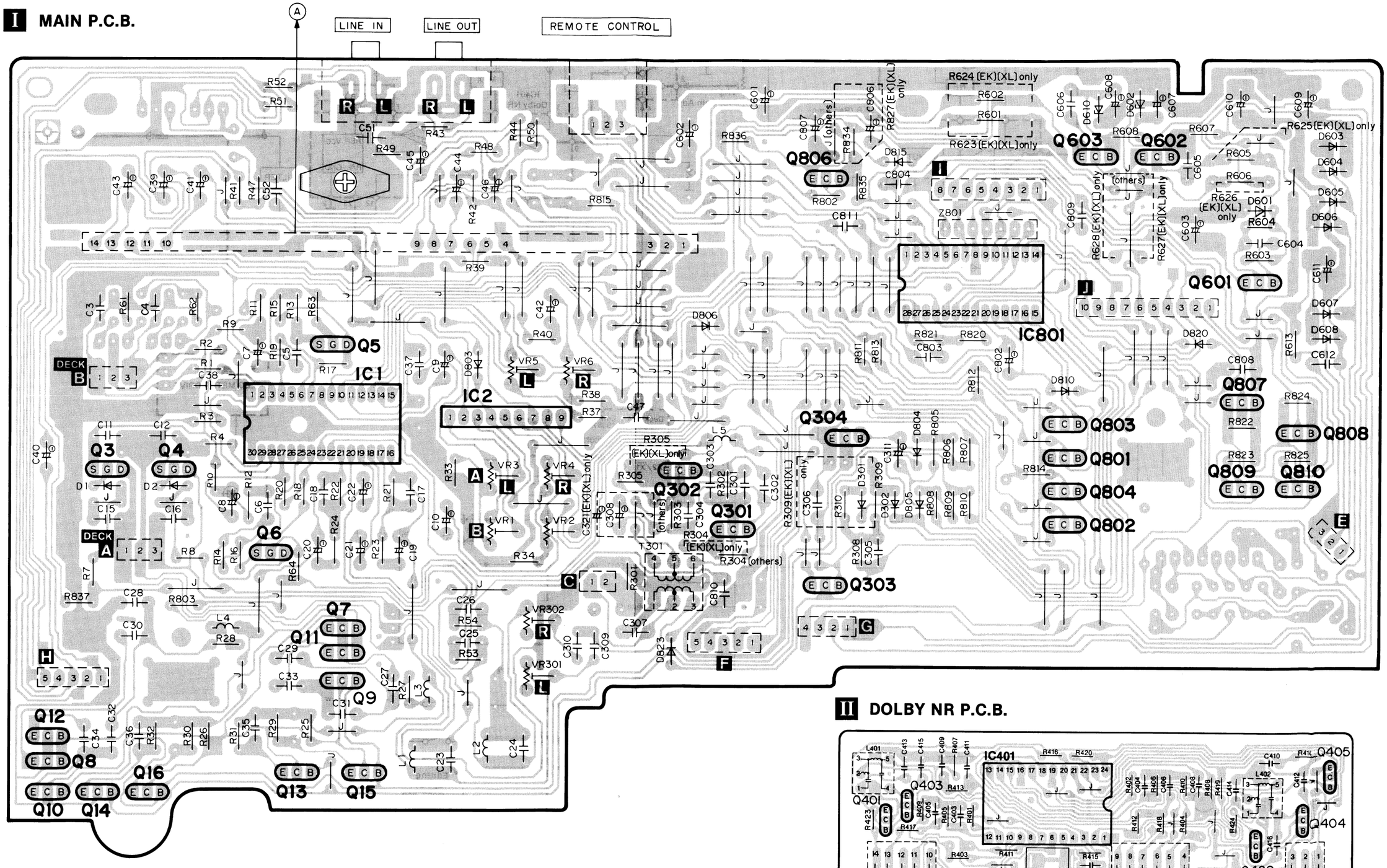
■ BLOCK DIAGRAM



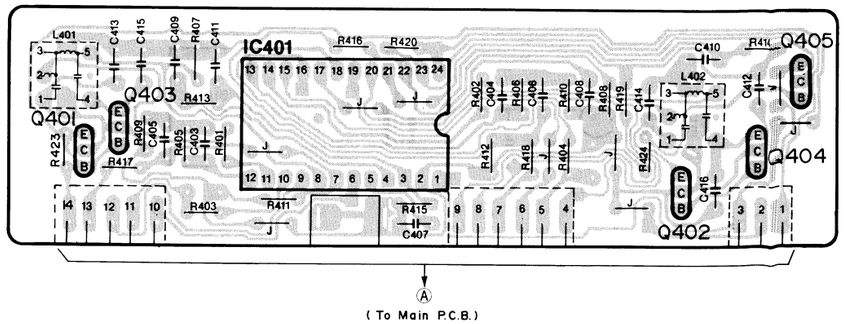
NOTES:
(➡): Playback signal
(⇨): Recording signal

■ PRINTED CIRCUIT BOARDS

I MAIN P.C.B.



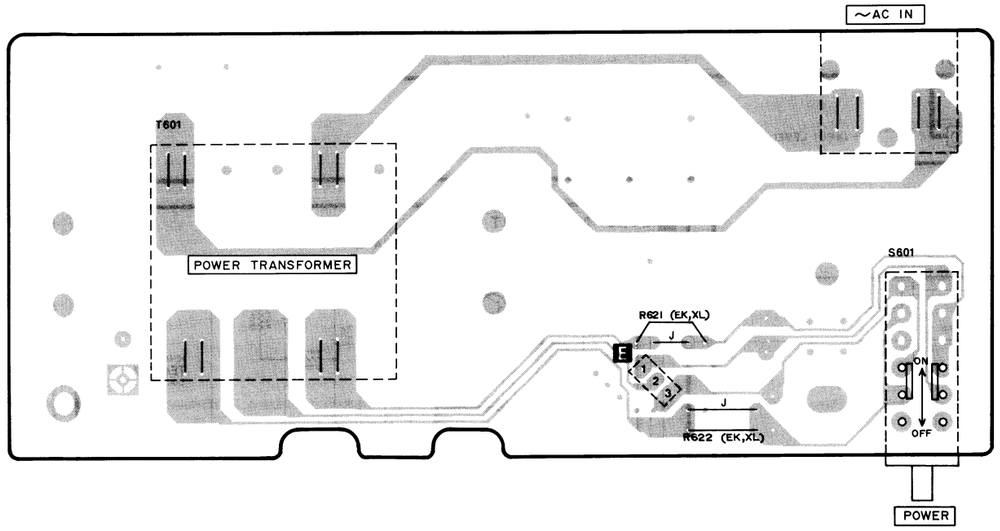
II DOLBY NR P.C.B.



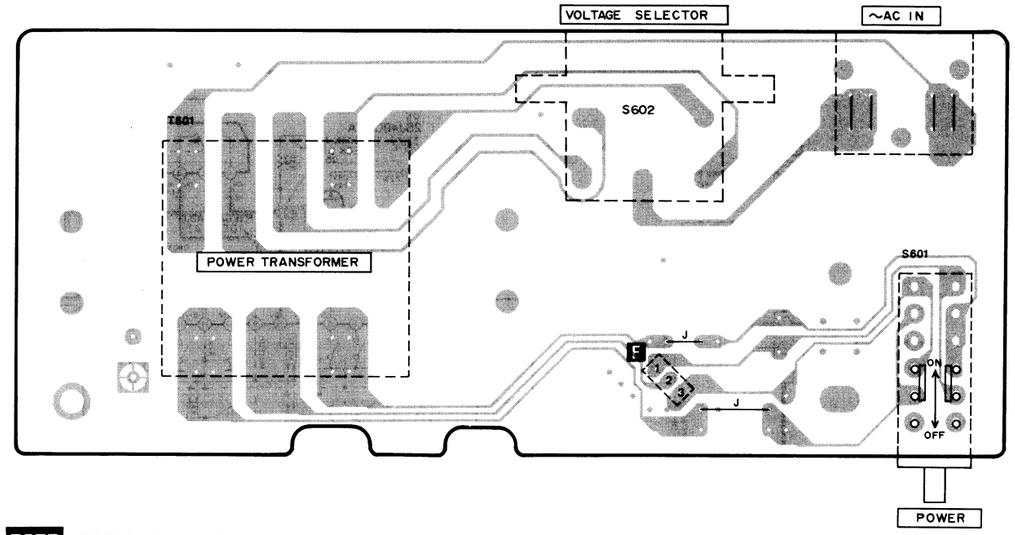
(To Main P.C.B.)

11 12 13 14 15 16 17 18 19 20

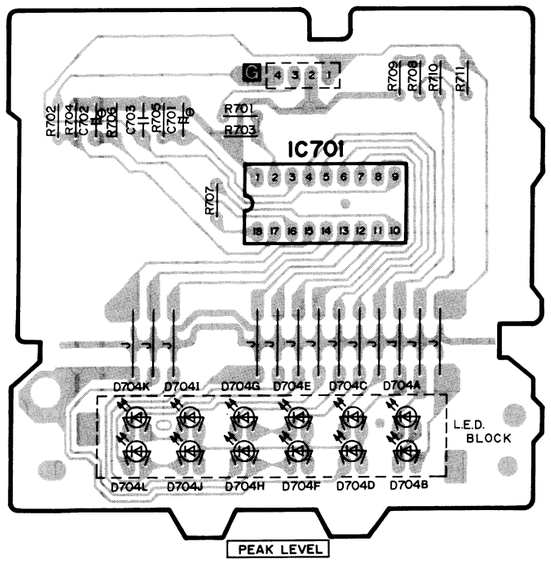
III POWER SUPPLY P.C.B. (Except [XA])



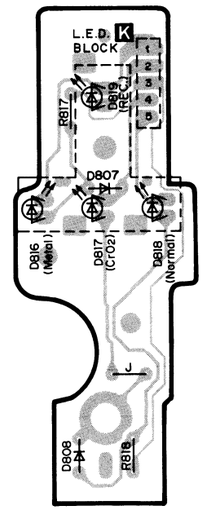
III POWER SUPPLY P.C.B. ([XA] only)



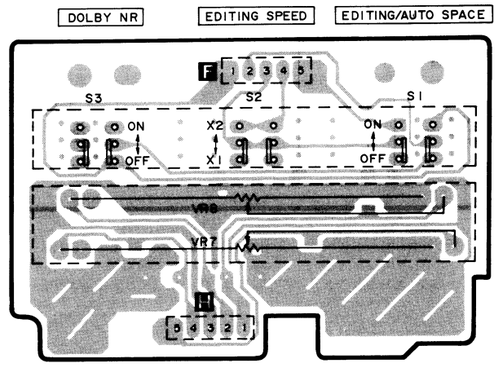
V LED METER P.C.B.



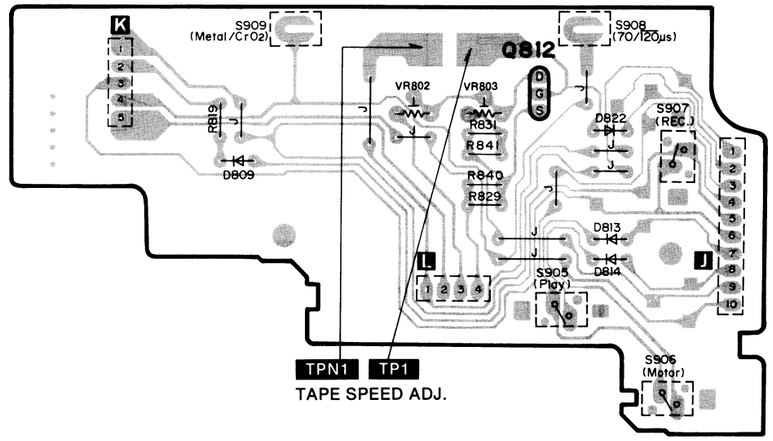
VI LED P.C.B.



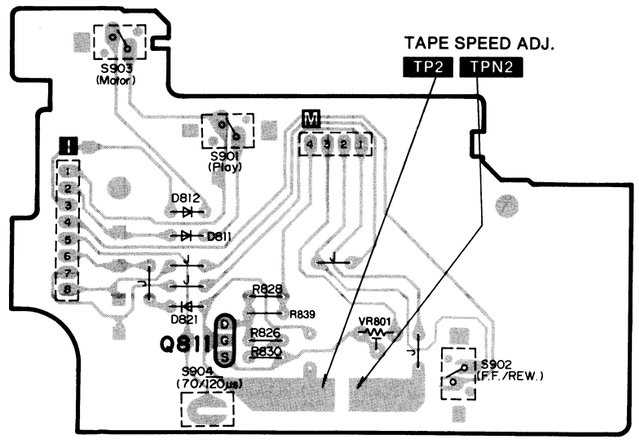
IV VR/SW P.C.B.



VII MECHANISM P.C.B. (DECK A)



VIII MECHANISM P.C.B. (DECK B)



I MAIN CIRCUIT

IV VR/SW CIRCUIT

II DOLBY NR CIRCUIT

III POWER SUPPLY CIRCUIT

DECK B
L ch
Playback Head
R ch

DECK A
L ch
Record/Playback Head
R ch

Q3,4
2SJ40BCTA
REC /ON

Q5
2SJ40CDTA
X1/X2 DRIVE
P.B.GAIN ADJ. (DECK B)

P.B.GAIN ADJ. (DECK A)

IC2
MN6634
DECK A/B MODE SELECTOR

INPUT LEVEL CONTROL

P.B.GAIN ADJ. (DECK B)

P.B.GAIN ADJ. (DECK A)

IC1
AN7016NK
PLAYBACK/REC. AMP.

Q7,8
2SC3311A-Q
X2/ON

Q11,12
2SA1309Q
X1/ON

OVERALL GAIN ADJ. (DECK A)

Q9,10
2SA1309Q
CrO2/ON

Q13,14
2SC3311A-Q
70μs/ON

Q6
2SJ40CDTA
X1/X2 DRIVE

Q301,302
2SC3311A-Q
BIAS OSC

{EK, XL}
50V 0.47

Q303
2SD592ANCQ
BIAS CONTROL

Q304
UN4211
BIAS CONTROL

Q804
UN4113
70/120μs CONTROL

Q15,16
2SC3311A-Q
METAL/ON

BIAS CURRENT ADJ.

LINE IN
Lch
Rch

DECK A
Erase Head

AC IN
(XA) only
Except (XA)

Q602
2SD592ANCQ
REGULATOR

Q601
2SD592ANCQ
REGULATOR

Q603
2SB621A-R
REGULATOR

Except (EK,XL)

Q801
UN4113
X1/X2 CONTROL

Q802
UN4113
DECK A MODE CONTROL

Q803
UN4113
PLAYBACK/REC. CONTROL

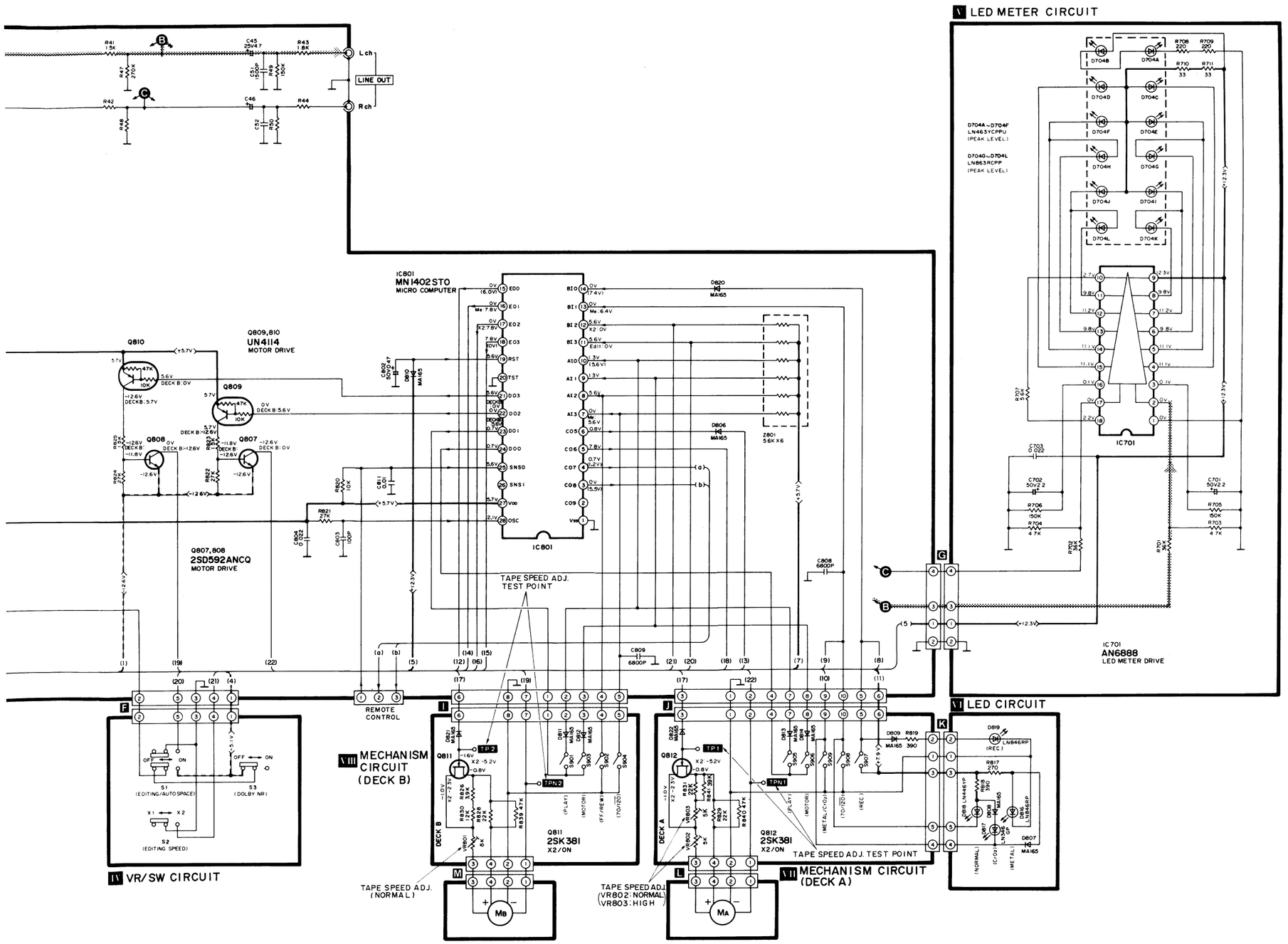
Q401,403
2SC3311A-Q
MPX. CONTROL

IC401
TEA0657
DOLBY NR

Q402,404
2SC3311A-Q
MPX CONTROL

Q405
2SA1309Q
PLAYBACK/REC. CONTROL

Q806
2SA1309Q
MUTING CONTROL



■ SCHEMATIC DIAGRAM

(This schematic diagram may be modified at any time with the development of new technology.)

Notes:

- **S1** : Editing/Auto space switch in "**off**" position.
- **S2** : Editing speed selector in "**X1**" position.
- **S3** : Dolby NR switch in "**off**" position.
- **S601** : Power switch in "**on**" position.
- **S602** : Voltage selector in "**240V**" position. (XA only)
- **S901** : DECK B Play switch in "**off**" position.
- **S902** : DECK B FF/REW switch in "**off**" position.
- **S903** : DECK B Motor switch in "**off**" position.
- **S904** : DECK B ATS (70/120μ) switch in "**off**" position.
- **S905** : DECK A Play switch in "**off**" position.
- **S906** : DECK A Motor switch in "**off**" position.
- **S907** : DECK A Rec. switch in "**off**" position.
- **S908** : DECK A ATS (70/120μ) switch in "**off**" position.
- **S909** : DECK A ATS (Metal/CrO_2) switch in "**off**" position.
- Resistance are in ohms (Ω), 1/4 watt unless specified otherwise. 1K=1,000 (Ω), 1M=1,000k (Ω)
- Capacity are in micro-farads (μF) unless specified otherwise.
- All voltage values shown in circuitry are under no signal condition and playback mode with volume control at minimum position otherwise specified.
  ( ) ..... Voltage values at record mode.
  For measurement us EVM.
- Important safety notice
  Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

- (▬▬< +B >▬▬) indicates +B (bias).
- (■■■< −B >■■■) indicates −B (bias).
- (▒▒▒▒) indicates the flow of the playback signal.
- (⇨) indicates the flow of the record signal.

* Caution !

IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.

* Cover the parts boxes made of plastics with aluminum foil.
* Ground the soldering iron.
* Put a conductive mat on the work table.
* Do not touch the legs of IC or LSI with the fingers directly.

■ RESISTORS & CAPACITORS

Notes : * Important safety notice :
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area.)
Parts without these indications can be used for all areas.

Numbering System of Resistor

Example:

ERD	25	F	J	102
Type	Wattage (1/4W)	Shape	Tolerance	Value (1KΩ)

ERX	2	AN	J	471
Type	Wattage (2W)	Shape	Tolerance	Value (470Ω)

Numbering System of Capacitor

Example:

ECKD	1H	102	Z	F
Type	Voltage (50V)	Value (0.001μF)	Tolerance	Peculiarity

ECEA	50	M	330
Type	Voltage (50V)	Pecliarity	Value (33μF)

● Capacity are in microfarads (μF) unless specified otherwise, P= Pico-farads (pF) F= Farads (F).
● Resistance are in ohms (Ω), unless specified otherwise, 1K= 1,000Ω, 1M= 1,000kΩ

Resistor Type		Wattage		Tolerance
ERD	: Carbon	10 : 1/8W	12 : 1/2W	J : ±5%
ERG	: Metal Oxide	14 : 1/4W	25 : 1/4W	F : ±1%
ERQ	: Fuse Type Metal	1A : 1W	18 : 1/8W	G : ±2%
ERX	: Metal Film	S2 : 1/4W	S1 : 1/2W	J : ±5%
ERD L	: Carbon (chip)	2F : 1/4W	50 : 1/2W	K : ±10%
ERO K	: Metal Film (chip)	2A : 2W	3A : 3W	M : ±20%
ERC	: Solid	6G : 1/10W	8G : 1/8W	
ERF	: Incombustible Box-Shaped			
ERM	: Wire-Wound			
RRJ	: Cip Resistor			
ERJ	: Cip Resistor			

Capacitor Type		Voltage		Tolerance
ECE	: Electrolytic	0J : 6.3V	1A : 10V	K : ±10%
ECCD	: Ceramic	1C : 16V	1E : 25V	M : ±20%
ECKD	: Ceramic Capacitor	1H : 50V	1V : 35V	Z : +80 % −20
ECQM	: Poyester	50 : 50V	05 : 50V	J : ±5%
ECQP	: Polypropylene	2H : 500V	2A : 100V	G : ±2%
ECG	: Ceramic	1 : 100V	1J : 63V	F : ±1%
ECEA N	: Non Polar Electrolytic	KC : 400V AC		C : ±0.25pF
QCU	: Ceramic (Chip Type)	KC : 125V AC (UL)		D : ±0.5pF
ECUX	: Ceramic (Chip Type)			
ECF	: Semiconductor			
EECW	: Liquid electrolyte double layer capacitor			

Ref. No.	Part No.	Value.
RESISTORS(VALUE,WATTAGE)		
R1	ERDS2TJ101	100 1/4
R2	ERDS2TJ101	100 1/4
R3	ERDS2TJ101	100 1/4
R4	ERDS2TJ101	100 1/4
R7	ERDS2TJ225	2.2M 1/4
R8	ERDS2TJ225	2.2M 1/4
R9	ERDS2TJ101	100 1/4
R10	ERDS2TJ101	100 1/4
R11	ERDS2TJ392	3.9K 1/4
R12	ERDS2TJ392	3.9K 1/4
R13	ERDS2TJ272	2.7K 1/4
R14	ERDS2TJ272	2.7K 1/4
R15	ERDS2TJ122	1.2K 1/4
R16	ERDS2TJ122	1.2K 1/4
R17	ERDS2TJ332	3.3K 1/4
R18	ERDS2TJ332	3.3K 1/4
R19	ERDS2TJ154	150K 1/4
R20	ERDS2TJ154	150K 1/4
R21	ERDS2TJ273	27K 1/4
R22	ERDS2TJ273	27K 1/4
R23	ERDS2TJ472	4.7K 1/4
R24	ERDS2TJ472	4.7K 1/4
R25	ERDS2TJ102	1K 1/4
R26	ERDS2TJ102	1K 1/4
R27	ERDS2TJ330	33 1/4
R28	ERDS2TJ330	33 1/4
R29	ERDS2TJ472	4.7K 1/4
R30	ERDS2TJ472	4.7K 1/4
R31	ERDS2TJ182	1.8K 1/4
R32	ERDS2TJ182	1.8K 1/4
R33	ERDS2TJ182	1.8K 1/4
R34	ERDS2TJ182	1.8K 1/4
R37	ERDS2TJ272	2.7K 1/4
R38	ERDS2TJ272	2.7K 1/4
R39	ERDS2TJ183	18K 1/4
R40	ERDS2TJ183	18K 1/4
R41	ERDS2TJ152	1.5K 1/4
R42	ERDS2TJ152	1.5K 1/4
R43	ERDS2TJ182	1.8K 1/4
R44	ERDS2TJ182	1.8K 1/4
R47	ERDS2TJ274	270K 1/4
R48	ERDS2TJ274	270K 1/4
R49	ERDS2TJ154	150K 1/4
R50	ERDS2TJ154	150K 1/4
R51	ERDS2TJ363	36K 1/4
R52	ERDS2TJ363	36K 1/4
R53	ERDS2TJ103	10K 1/4
R54	ERDS2TJ103	10K 1/4
R61	ERDS2TJ154	150K 1/4
R62	ERDS2TJ154	150K 1/4
R63	ERDS2TJ225	2.2M 1/4
R64	ERDS2TJ225	2.2M 1/4
R301	ERDS2TJ1R0	1 1/4
R302	ERDS2TJ563	56K 1/4
R303	ERDS2TJ563	56K 1/4
R304 (EK, XL)	ERDS1FJ100	10 1/2
R304 (E, EG, EH, XA)	ERDS2TJ100	10 1/4
R305 (EK, XL)	ERDS1FJ100	10 1/2
R305 (E, EG, EH, XA)	ERDS2TJ100	10 1/4
R308	ERDS2TJ561	560 1/4
R309 (EK, XL)	ERDS1FJ220	22 1/2
R309 (E, EG, EH, XA)	ERDS2TJ220	22 1/4
R310	ERDS2TJ331	330 1/4
R401	ERDS2TJ242	2.4K 1/4
R402	ERDS2TJ242	2.4K 1/4
R403	ERDS2TJ471	470 1/4
R404	ERDS2TJ471	470 1/4
R405	ERDS2TJ473	47K 1/4
R406	ERDS2TJ473	47K 1/4
R407	ERDS2TJ432	4.3K 1/4
R408	ERDS2TJ432	4.3K 1/4
R409	ERDS2TJ332	3.3K 1/4
R410	ERDS2TJ332	3.3K 1/4
R411	ERDS2TJ102	1K 1/4
R412	ERDS2TJ102	1K 1/4
R413	ERDS2TJ274	270K 1/4
R414	ERDS2TJ274	270K 1/4
R415	ERDS2TJ184	180K 1/4
R416	ERDS2TJ184	180K 1/4
R417	ERDS2TJ470	47 1/4
R418	ERDS2TJ470	47 1/4
R419	ERDS2TJ222	2.2K 1/4
R420	ERDS2TJ103	10K 1/4
R423	ERDS2TJ102	1K 1/4
R424	ERDS2TJ473	47K 1/4
R601 (EK, XL)	ERDS2TJ271	270 1/4
R601 (E, EG, EH, XA)	ERDS2TJ470	47 1/4
R602 (EK, XL)	ERDS2TJ271	270 1/4
R602 (E, EG, EH, XA)	ERDS2TJ470	47 1/4
R603	ERDS2TJ101	100 1/4
R604	ERDS2TJ102	1K 1/4
R605 (E, EG, EH, XA)	ERDS1FJ100	10 1/2
R605 (EK, XL)	ERDS2TJ101	100 1/4
R606 (E, EG, EH, XA)	ERDS1FJ220	22 1/2
R606 (EK, XL)	ERDS2TJ220	22 1/4
R607	ERDS2TJ102	1K 1/4
R608	ERDS2TJ102	1K 1/4
R613	ERDS2TJ563	56K 1/4
R621 (EK, XL)	ERQ14LKR22	0.22 1/4
R622 (EK, XL)	ERQ14LKR22	0.22 1/4
R623 (EK, XL)	ERG1ANJ560	56 1
R624 (EK, XL)	ERG1ANJ560	56 1
R625 (EK, XL)	ERG1ANJP120S	12 1
R626 (EK, XL)	ERD2FCJ6R8	6.8 1/4

Ref. No.	Part No.	Value.
CAPACITORS(VALUE,VOLTAGE)		
C3	RCBC1H471KBY	470P 50
C4	RCBC1H471KBY	470P 50
C5	ECQB1H123JZ	0.012 50
C6	ECQB1H123JZ	0.012 50
C7	ECEA0JU101	100 6.3
C8	ECEA0JU101	100 6.3
C9	ECEA1EK4R7	4.7 25
C10	ECEA1EK4R7	4.7 25
C11	ECBA1H681KB5	680P 50
C12	ECBA1H681KB5	680P 50
C15	ECKD1H122KB	1200P 50
C16	ECKD1H122KB	1200P 50
C17	ECCD1H181K	180P 50
C18	ECCD1H181K	180P 50
C19 (E, EK, EG, EH)	ECEA1HKR33	0.33 50
C19 (XL, XA)	ECEA1HKR47	0.47 50
C20 (E, EK, EG, EH)	ECEA1HKR33	0.33 50
C20 (XL, XA)	ECEA1HKR47	0.47 50
C21	ECEA1HK010	1 50
C22	ECEA1HK010	1 50
C23	ECKD2H101KB	100P 500
C24	ECKD2H101KB	100P 500
C25	ECKD1H561KB	560P 50
C26	ECKD1H561KB	560P 50
C27	ECQB1H332JZ3	3300P 50
C28	ECQB1H332JZ3	3300P 50
C29	ECQB1H223JZ	0.022 50
C30	ECQB1H223JZ	0.022 50
C31	ECQB1H123JZ	0.012 50
C32	ECQB1H123JZ	0.012 50
C33	ECQB1H223JZ	0.022 50
C34	ECQB1H223JZ	0.022 50
C35	ECFR1E153KAY	0.015 25
C36	ECFR1E153KAY	0.015 25
C37	ECKD1H223PF	0.022 50
C38	ECKD1H223PF	0.022 50
C39	ECEA1HK010	1 50
C40	ECEA1HK010	1 50
C41	ECEA1HK2R2B	2.2 50
C42	ECEA1HK2R2B	2.2 50
C43	ECEA1EK4R7	4.7 25
C44	ECEA1EK4R7	4.7 25
C45	ECEA1EK4R7	4.7 25
C46	ECEA1EK4R7	4.7 25
C47	ECKD1H223PF	0.022 50
C51	ECKD1H152KB	1500P 50
C52	ECKD1H152KB	1500P 50
C301	ECKD1H392KB	3900P 50
C302	ECFR1E682KAY	6800P 25
C303	ECFR1E222KAY	2200P 25
C304	ECFR1E222KAY	2200P 25
C305	ECKD1H223PF	0.022 50
C306	ECFD1V473KD	0.047 35
C307	ECQP1183JZ	0.018 100
C308 (E, EG, EH, XA)	ECEA1CKS100	10 16
C308 (EK, XL)	ECEA1CK220	22 16
C309	RCBS1H271KBY	270P 50
C310	RCBS1H271KBY	270P 50
C311	ECEA1CKS100	10 16
C321 (EK, XL)	ECEA1CK220	22 16
C403	ECQB1H472JZ	4700P 50
C404	ECQB1H472JZ	4700P 50
C405	ECQM1H333JZ	0.033 50
C406	ECQM1H333JZ	0.033 50
C407	ECQM1H473JZ	0.047 50
C408	ECQM1H473JZ	0.047 50
C409	ECQV1H334JZ	0.33 50
C410	ECQV1H334JZ	0.33 50
C411	ECQV1H104JZ	0.1 50
C412	ECQV1H104JZ	0.1 50
C413	ECKD1H122KB	1200P 50
C414	ECKD1H122KB	1200P 50
C415	ECKD1H152KB	1500P 50
C416	ECKD1H152KB	1500P 50
C601	ECEA0JS102	1000 6.3
C602	ECEA0JS102	1000 6.3
C603	ECEA0JU222B	2200 6.3
C604	ECKD1H223PF	0.022 50
C605	ECKD1H223PF	0.022 50
C606	ECKD1H223PF	0.022 50
C607	ECEA1AU221	220 10
C608	ECEA1AU221	220 10
C609	ECEA1CU471B	470 16
C610	ECEA1CU471B	470 16
C611	ECEA1CU102B	1000 16
C612	ECKT2H682PEL	0.0068 500
C701	ECEA1HK2R2B	2.2 50
C702	ECEA1HK2R2B	2.2 50
C703	ECKD1H223PF	0.022 50
C802	ECEA1HKR47	0.47 50
C803	ECCD1H101K	100P 50
C804	ECKD1H223PF	0.022 50
C806	ECEA1EK4R7	4.7 25
C807	ECEA1AU221	220 10
C808	ECFR1E682KAY	6800P 25
C809	ECFR1E682KAY	6800P 25
C810	ECQV1H224JZ	0.22 50
C811	ECFD1V103KD	0.01 35

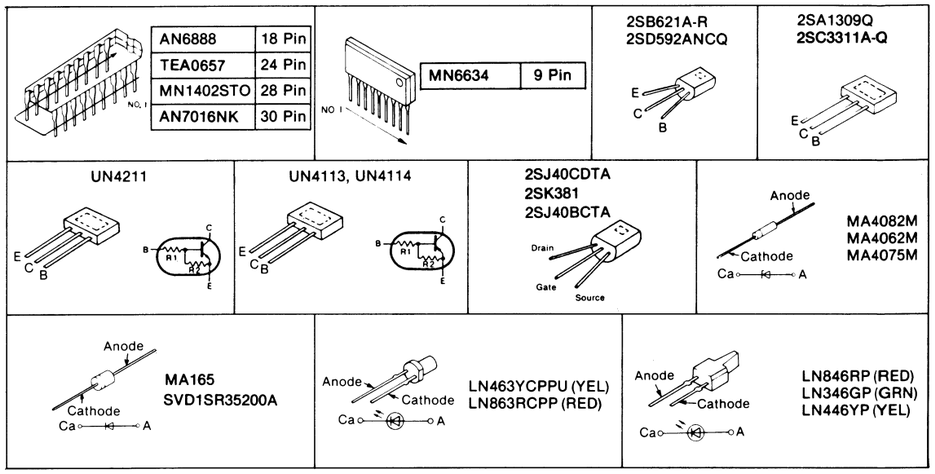
■ REPLACEMENT PARTS LIST

Notes : * Important safety notice :
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area.)
Parts without these indications can be used for all areas.

Ref. No.	Part No.	Description
INTEGRATED CIRCUITS		
IC1	AN7016NK	I.C. PLAY/REC AMP
IC2	MN6634	I.C. DECK A/B SELECTOR
IC401	TEA0657	I.C. DOLBY NR
IC701	AN6888	I.C. LED METER DRIVE
IC801	MN1402ST0	I.C. MICRO COMPUTER
TRANSISTORS		
Q3	2SJ40BCTA	TRANSISTOR
Q4	2SJ40BCTA	TRANSISTOR
Q5	2SJ40CDTA	TRANSISTOR
Q6	2SJ40CDTA	TRANSISTOR
Q7	2SC3311A-Q	TRANSISTOR
Q8	2SC3311A-Q	TRANSISTOR
Q9	2SA1309Q	TRANSISTOR
Q10	2SA1309Q	TRANSISTOR
Q11	2SA1309Q	TRANSISTOR
Q12	2SA1309Q	TRANSISTOR
Q13	2SC3311A-Q	TRANSISTOR
Q14	2SC3311A-Q	TRANSISTOR
Q15	2SC3311A-Q	TRANSISTOR
Q16	2SC3311A-Q	TRANSISTOR
Q301	2SC3311A-Q	TRANSISTOR
Q302	2SC3311A-Q	TRANSISTOR
Q303	2SD592ANCQ	TRANSISTOR
Q304	UN4211	TRANSISTOR
Q401	2SC3311A-Q	TRANSISTOR
Q402	2SC3311A-Q	TRANSISTOR
Q403	2SC3311A-Q	TRANSISTOR
Q404	2SC3311A-Q	TRANSISTOR
Q405	2SA1309Q	TRANSISTOR
Q601	2SD592ANCQ	TRANSISTOR
Q602	2SD592ANCQ	TRANSISTOR
Q603	2SB621A-R	TRANSISTOR
Q801	UN4113	TRANSISTOR
Q802	UN4113	TRANSISTOR
Q803	UN4113	TRANSISTOR
Q804	UN4113	TRANSISTOR
Q806	2SA1309Q	TRANSISTOR
Q807	2SD592ANCQ	TRANSISTOR
Q808	2SD592ANCQ	TRANSISTOR
Q809	UN4114	TRANSISTOR
Q810	UN4114	TRANSISTOR
Q811	2SK381	TRANSISTOR
Q812	2SK381	TRANSISTOR
DIODES		
D1	MA165	DIODE
D2	MA165	DIODE
D301	MA165	DIODE
D302	MA165	DIODE
D601	MA4062M	DIODE
D602	MA4082M	DIODE
D603 ⚠	SVD1SR35200A	RECTIFIER
D604 ⚠	SVD1SR35200A	RECTIFIER
D605 ⚠	SVD1SR35200A	RECTIFIER
D606 ⚠	SVD1SR35200A	RECTIFIER
D607 ⚠	SVD1SR35200A	RECTIFIER
D608 ⚠	SVD1SR35200A	RECTIFIER
D610	MA4075M	DIODE
D704A	LN463YCPPU	L.E.D
D704B	LN463YCPPU	L.E.D
D704C	LN463YCPPU	L.E.D
D704D	LN463YCPPU	L.E.D
D704E	LN463YCPPU	L.E.D
D704F	LN463YCPPU	L.E.D
D704G	LN863RCPP	L.E.D
D704H	LN863RCPP	L.E.D
D704I	LN863RCPP	L.E.D
D704J	LN863RCPP	L.E.D
D704K	LN863RCPP	L.E.D

Ref. No.	Part No.	Description
D704L	LN863RCPP	L.E.D
D803	MA165	DIODE
D804	MA165	DIODE
D805	MA165	DIODE
D806	MA165	DIODE
D807	MA165	DIODE
D808	MA165	DIODE
D809	MA165	DIODE
D810	MA165	DIODE
D811	MA165	DIODE
D812	MA165	DIODE
D813	MA165	DIODE
D814	MA165	DIODE
D815	MA165	DIODE
D816	LN846RP	L.E.D
D817	LN346GP	L.E.D
D818	LN446YP	L.E.D
D819	LN846RP	L.E.D
D820	MA165	DIODE
D821	MA165	DIODE
D822	MA165	DIODE
D823	MA165	DIODE
VARIABLE RESISTORS		
VR1	EVND4AA00B24	V.R. PB GAIN (DECK B)
VR2	EVND4AA00B24	V.R. PB GAIN (DECK B)
VR3	EVND4AA00B24	V.R. PB GAIN (DECK A)
VR4	EVND4AA00B24	V.R. PB GAIN (DECK A)
VR5	EVND4AA00B14	V.R. OVERALL (DECK A)
VR6	EVND4AA00B14	V.R. OVERALL (DECK A)
VR7	EWAPB1X05A54	V.R. INPUT LEVEL CONTROL
VR8	EWAPB1X05A54	V.R. INPUT LEVEL CONTROL
VR301	EVND4AA00B15	V.R. BIAS CURRENT ADJ.
VR302	EVND4AA00B15	V.R. BIAS CURRENT ADJ.
VR801	EVN49C00YB53	V.R. TAPE SPEED (DECK B)
VR802	EVN49C00YB53	V.R. TAPE SPEED (DECK A)
VR803	EVN49C00YB53	V.R. TAPE SPEED (DECK A)
COILS AND TRANSFORMERS		
L1	SLQX303-1KT	CHOKE COIL
L2	SLQX303-1KT	CHOKE COIL
L3	SLQX272-1YT	CHOKE COIL
L4	SLQX272-1YT	CHOKE COIL
L5	ELEPK271KA	COIL FILTER
L401	QLB40048	M.P.X. COIL
L402	QLB40048	M.P.X. COIL
T301	SL09C19-K	OSCILLATOR COIL
T601 ⚠ (E, EG, EH)	SLT5K232SA	POWER TRANSFORMER
T601 ⚠ (XA)	SLT5K233SA	POWER TRANSFORMER
T601 ⚠ (EK, XL)	SLT5K234SA	POWER TRANSFORMER
COMPONENT COMBINATIONS		
Z801	EXBF7E562J	COMPONENT COMBINATION
SWITCHES		
S1	SSH3713	PUSH SWITCH, EDITING AUTO SPACE
S2	SSH3713	PUSH SWITCH, EDITING SPEED
S3	SSH3713	PUSH SWITCH, DOLBY NR
S601 ⚠	SSH1226	SW, POWER
S602 ⚠ (XA)	SSR187-1	SW, VOLTAGE SELECTOR
S901	SSP83	SW, PLAY (DECK B)
S902	SSP83	SW, FF/REW (DECK B)
S903	SSP83	SW, MOTOR (DECK B)
S904	LSA-1150AU	LEAF SWITCH (DECK B)
S905	SSP83	SW, PLAY (DECK A)
S906	SSP83	SW, MOTOR (DECK A)
S907	SSP83	SW, REC (DECK A)
S908	LSA-1150AU	LEAF SWITCH (DECK A)
S909	LSA-1150AU	LEAF SWITCH (DECK A)

■ TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES



■ MECHANICAL PARTS LOCATION

NOTES:
- When changing mechanism parts. apply the specified grease to the are marked "××" shown in the drawing "Mechanical Parts Location".

Ref. No.	Part Name	Part No.
❶	ROCOL PASTE	RZZ0L06
❷	FLOIL G-488M	SZZ0L28
❸	FLOIL 947P	RZZ0L02
❹	SILICONE OIL NO. 2	SZZ0L12
❺	FLOIL G-488	SZZ0L10
❻	FLOIL G-311S	SZZ0L26

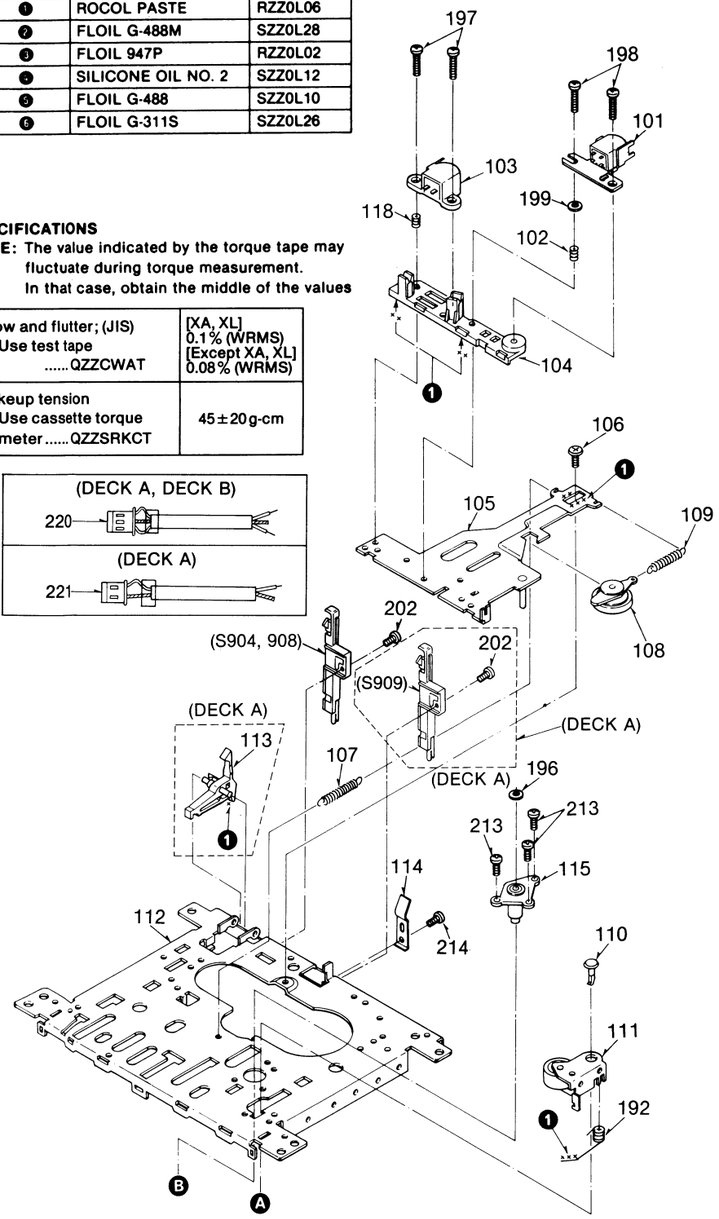
SPECIFICATIONS

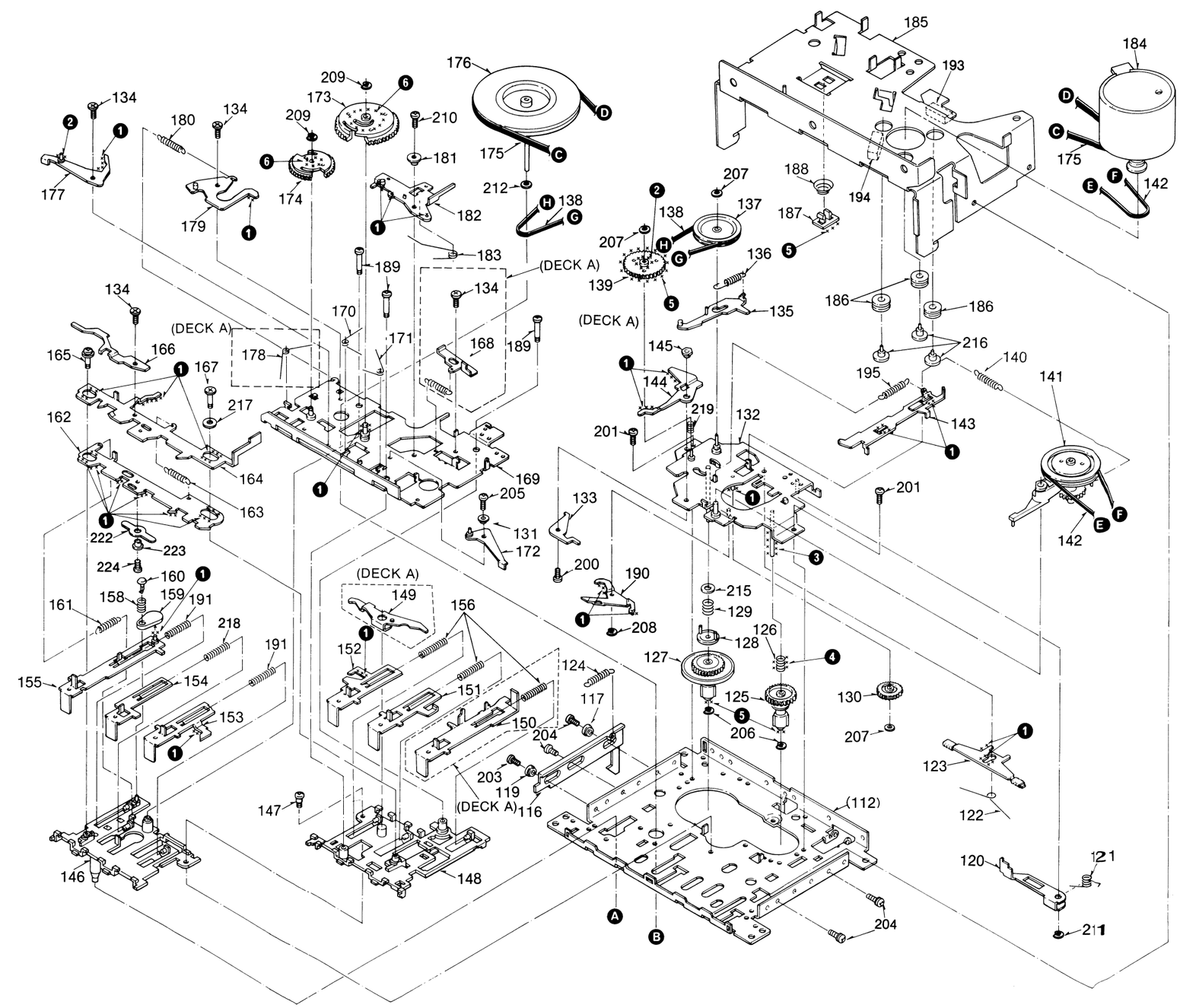
NOTE: The value indicated by the torque tape may fluctuate during torque measurement. In that case, obtain the middle of the values

Wow and flutter; (JIS) ✻ Use test tape .....QZZCWAT	[XA, XL] 0.1% (WRMS) [Except XA, XL] 0.08% (WRMS)
Takeup tension ✻ Use cassette torque meter.....QZZSRKCT	45±20g-cm

(DECK A, DECK B)
220

(DECK A)
221





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■ REPLACEMENT PARTS LIST

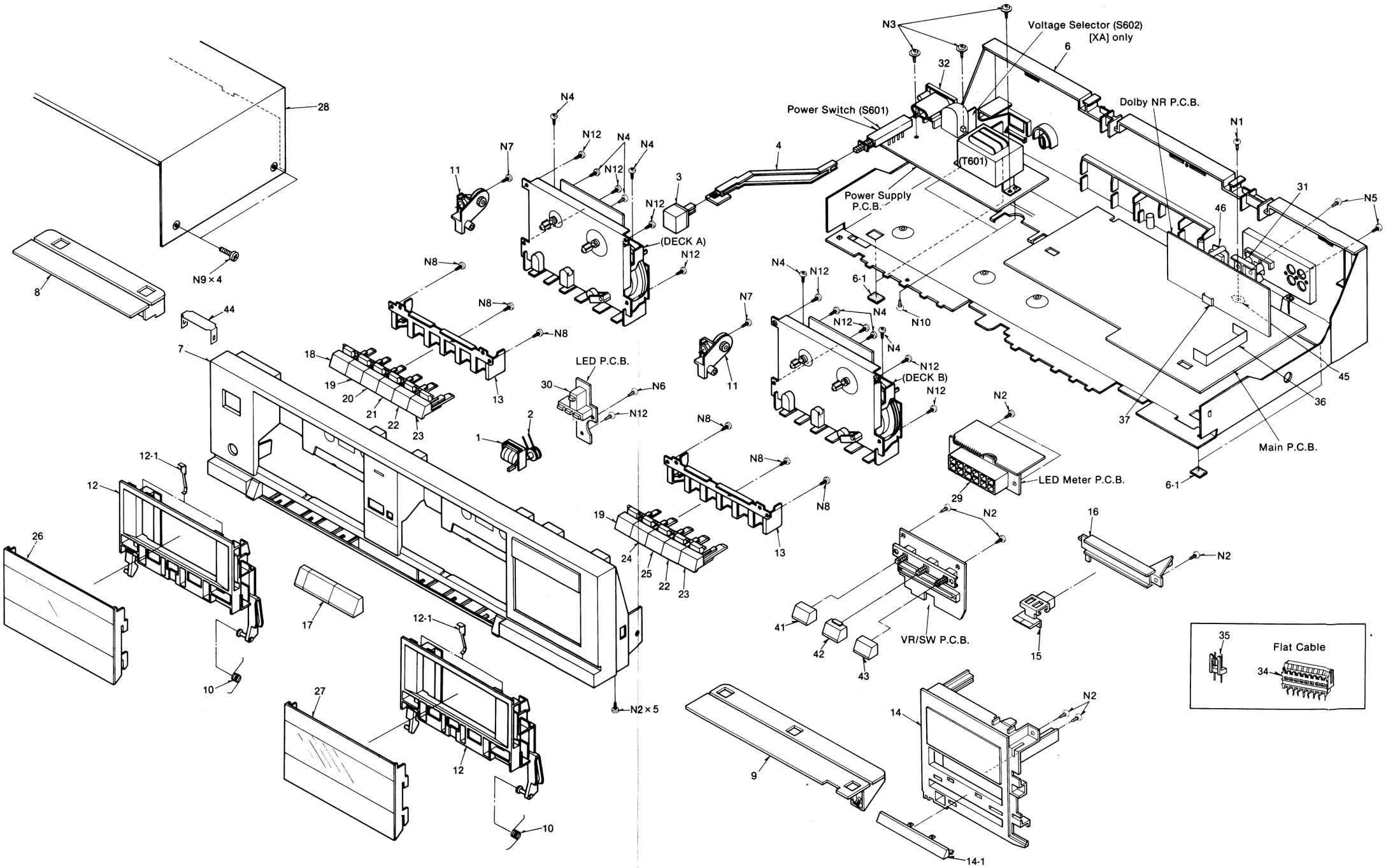
Notes : * Important safety notice :
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area.)
Parts without these indications can be used for all areas.

Ref. No.	Part No.	Description
CASSETTE DECK		
101 (E, EK, EG, EH)	SJH103-1	PLAY HEAD (DECK B)
101 (XA, XL)	SJH108	REC/PLAY HEAD (DECK A)
101 (XA, XL)	SJH109	PLAY HEAD (DECK B)
101 (E, EK, EG, EH)	SJH95	REC/PLAY HEAD (DECK A)
102	SMQ4596	SPRING
103	RJH7E5YAM	ERASE HEAD (DECK A)
103	SMQT1767	DAMYE HEAD (DECK B)
104	SMQ4768	HEAD BASE
105	RFD135ZA	PANEL
107	SMQ4770	HEAD PANEL SPRING
108	SMQ4772	TAKE UP ROLLER ASS'Y
109	RFS249ZA	SPRING
110	SMQ4774	FUNCTION LEVER STOPPER
111	SMQ4776	PINCH ROLLER ASS'Y
112	SMQT1458	CHASSIS
113	SMQ4778	REC SAFETY LEVER (DECK A)
114	SMQ4780	PACK HOLDER SPRING
115	SMQ4782	FLYWHEEL METAL
116	RFY183ZA	LEVER
117	SMQ4786	COLLAR
118	SMQT1629	SPRING
119	SMQ4788	COLLAR
120	SMQ4790	CONTROL LEVER
121	RFS379Z	SPRING
122	SMQ4792	BRAKE SPRING
123	SMQ4794	BRAKE ARM ASS'Y
124	SMQT1630	EJECT LEVER SPRING
125	SMQ4800	SUPPLY REEL ASS'Y
126	SMQT1636	SPRING
127	SMQT1769	TAKE UP REEL ASS'Y
128	SMQ4806	SENSING PIECE
129	SMQ4808	SENSING PIECE SPRING
130	SMQ4810	FF GEAR
131	SMQ4816	COLLAR
132	RFU16ZA	REEL BASE ASS'Y
133	SMQ4814	T. ROLLER KICK LEVER
135	SMQ4818	SENSING LEVER
136	SMQ4820	SENSING LEVER SPRING
137	SMQ4822	PULLEY
138.	SMQ4824	FULL AUTO BELT
139	SMQ4826	CAM GEAR
140	SMQT1631	RF CLUTCH ARM SPRING
141	SMQT1583	RF CLUTCH ARM ASS'Y
142	SMQT1584	RF BELT
143	SMQ4832	RF SLID LEVER ASS'Y
144	SMQ4834	AUTO LEVER
145	SMQ4938	AUTO LEVER COLLAR
146	SMQ4836	BUTTON BASE(L)
148	SMQ4840	BUTTON BASE(R)
149	SMQ4842	REC STOPPER (DECK A)
150	SMQT1586	REC BUTTON LEVER (DECK A)
151	SMQ4846	PLAY BUTTON LEVER
152	SMQ4848	RWD BUTTON LEVER
153	SMQ4850	FF BUTTON LEVER
154	SMQ4852	STOP BUTTON LEVER
155	SMQ4854	PAUSE BUTTON LEVER
156	SMQ4856	BUTTON LEVER SPRING
158	SMQ4860	PAUSE LEVER SPRING
159	SMQ2444	PAUSE LEVER
160	SMQ4862	P STOPPER
161	SMQT1588	SPRING
162	SMQT1597	LEVER (DECK B)
162	SMQT1764	LEVER (DECK A)
163	RFS253ZA	SPRING
164	SMQT1589	LEVER
166	SMQ4872	EJECT KICK LEVER
168	SMQ4880	FUNCTION LEVER ANGLE (DECK A)
169	SMQT1590	SUB CHASSIS ASS'Y
170	SMQ4888	M GEAR SPRING
171	SMQ4890	TRIGGER ARM SPRING
172	SMQ4892	TRIGGER ARM ASS'Y
173	SMQ4894	MAIN GEAR
174	SMQ4896	PAUSE GEAR
175 (E, EK, EG, EH)	SMQT1591	MAIN BELT (DECK A)
175 (XA, XL)	SMQT1765	MAIN BELT (DECK A)
176 (E, EK, EG, EH)	SMQT1592	FLYWHEEL ASS'Y (DECK A)
176 (XA, XL)	SMQ4900	FLYWHEEL ASS'Y (DECK A)
177	SMQ4902	TRIGGER ARM ASS'Y
178	SMQ4904	TRIGGER ARM SPRING
179	SMQ4906	PAUSE ARM ASS'Y
180	SMQ4909	PAUSE ARM SPRING
181	SMQ4910	LIFT ARM COLLAR
182	SMQT1593	LIFT ARM ASS'Y
183	RFS248ZA	LIFT ARM SPRING
184	MMUST130-KE	MOTOR SAA'Y
185 (E, EK, EG, EH)	SMQT1633	FM HOLD PLATE (DECK A)
185 (XA, XL)	SMQT1717	FM HOLD PLATE (DECK A)
186	SMQ4916	MOTOR RUBBER
187	SMQT1595	FL PLATE
188	SMQ4922	DAMPER SPRING
190	SMQ4940	KICK LEVER
191	SMQ4858	BUTTON LEVER SPRING
192	SMQT1453	SPRING
193	SMQT1598	FELT
194 (E, EK, EG, EH)	SMQT1636	SPRING (DECK A)
194 (XA, XL)	SMQT1680	FELT (DECK A)
195 (E, EK, EG, EH)	RFS372Z	RF SLIDE LEVER SPRING (DECK B)
195	RFS378Z	RF SLIDE LEVER SPRING (DECK A)
195 (XA, XL)	RFS378Z	RF SLIDE LEVER SPRING (DECK B)
218	SMQT1768	BUTTON LEVER SPRING
219	SMQT1549	SPRING
220	SWKST130M1	READ WIRE ASS'Y (DECK B)
220	SWKST130M2	READ WIRE ASS'Y (DECK A)
221	SWKST130M3	READ WIRE ASS'Y (DECK A)
222	RFY353Z	STOPER (DECK B)
223	RFZ85Z	COLLAR (DECK B)
SCREWS,WASHERS AND NUTS		
106	SMQT1581	COLLAR SCREW
134	SMQT1582	COLLAR SCREW
147	SMQ4838	COLLAR SCREW
165	SMQ4870	COLLAR SCREW
167	SMQ4878	COLLAR SCREW
189	SMQ4942	COLLAR SCREW
196	SMQ4936	NYLON WASHER
197	XSN2+8	SCREW
198	SMQT1634	SCREW
199	XWG2	WASHER
200	SMQ4944	COLLAR SCREW
201	XYN2+C4	SCREW
202	XYN2+C6	SCREW
203	XSN26+5	SCREW
204	XYN2+C5	SCREW
205	SMQT1460	SCREW
206	RFE133Z	RETAINING RING
207	SMQ4930	POLYSLIDE WASHER
208	XUC12FT	E-RING
209	XUC2FT	E-RING
210	XYN26+C6	SCREW
211	XUC15FT	E-RING
212	SMQ4932	POLYSLIDER WASHER
213	SMQ4934	SCREW
214	XTN26+3	SCREW
215	SMQT1454	WASHER
216	SMQ4918	COLLAR SCREW
217	RFN73Z	SPACER
224	XSS2+25	SCREW (DECK B)

Ref. No.	Part No.	Description
CABINET AND CHASSIS		
1	SJN20	TAPE COUNTER
2	SMQ20018	COUNTER BELT
3	SBC666-5	BUTTON, POWER
4	SUB255	ROD
6 (E)	SKMSD190WKE	CABINET BODY ASS'Y
6 (EG, EH)	SKMSD190WKEG	CABINET BODY ASS'Y
6 (EK)	SKMSD190WKEK	CABINET BODY ASS'Y
6 (XA)	SKMSD190WKXA	CABINET BODY ASS'Y
6 (XL)	SKMSD190WKXL	CABINET BODY ASS'Y
6-1	SKL293	FOOT
7	SGYSD190W-KE	FRONT PANEL ASS'Y
8	SGX7894-1	SPACER
9	SGX7895-1	SPACER
10	SUS797	SPRING
11	SGXST25-KP	DAMPER GEAR ASS'Y
12	SGXSB205-KE	CASSETTE HOLDER ASS'Y
12-1	QBP2006A	SPRING
13	SMN2001-1	BRACKET
14	SGXST18-KM	ORNAMENT ASS'Y
14-1	SGX9044	ORNAMENT
15	SBD149	KNOB, VOLUME
16	SGX9047-2	SLIDE GUIDE
17	SGX7897	ORNAMENT
18	SBC866A	BUTTON, REC
19	SBC867A	BUTTON, PLAY
20	SBC868A	BUTTON, REW
21	SBC869A	BUTTON, FF
22	SBC870A	BUTTON, STOP/EJECT
23	SBC871A	BUTTON, PAUSE
24	SBC868B	BUTTON, REW/REV
25	SBC869B	BUTTON, FF/CUE
26	SGU595	CASSETTE LID(DECK A)
27	SGU595-1	CASSETTE LID(DECK B)
28	SKC2090K99	CABINET BODY
29	LN121307P	LED BLOCK ASS'Y
30	LN041395P	LED BLOCK ASS'Y
31	SJF3057N	TERMINAL BOARD
32 ⚠	SJS8236	AC INLET
34	SJT30543-V	CONNECTOR(5P)
34	SJT30843-V	CONNECTOR(8P)
34	SJT31043-V	CONNECTOR(10P)
35	QJP1920TN-1	CONNECTOR(2P)
35	QJP1921TN-1	CONNECTOR(3P)
36	SMC1298	SHIELD PLATE
37	SMN2043	ANGLE
41	SBC1014	BUTTON, EDITING
42	SBC1014-1	BUTTON, SPEED
43	SBC1014-2	BUTTON, DOLBY
44	SUW31014	BRACKET
45	SNE55	BRACKET
46	SJS306	REMOTE CONTROL JACK
SCREWS,WASHERS AND NUTS		
N1	XTBS3+8JFZ1	SCREW
N2	XTB3+10J	SCREW
N3	XTW3+12Q	SCREW
N4	XTB3+6F	SCREW
N5	XTB3+12JFZ	SCREW
N6	XTV26+6J	SCREW
N7	XTB3+12J	SCREW
N8	XTV26+8J	SCREW
N9	SNE2125-1	SCREW
N10	XTB3+8JFZ	SCREW
N12	XTB3+8J	SCREW

Ref. No.	Part No.	Description
PACKING MATERIAL		
P1	SPG6210	CARTON BOX
P2	SPS4963-1	PAD (FRONT)
P3	SPS4964	PAD (BACK)
P4	XZB50X65B02	POLY SHEET
P5	SPS4905	PAD (ACCESSORY)
ACCESSORIES		
A1 ⚠ (E, EG, EH)	SFDAC05E03	POWER CORD
A1 ⚠ (XL)	SJA163	POWER CORD
A1 ⚠	SJA185	POWER CORD
(XA) A1 ⚠ (EK)	SJA188	POWER CORD
A2	SJP2201	CORD
A3 (EK)	SQF13175	INSTRUCTION BOOK
A3 (E, EH)	SQF13176	INSTRUCTION BOOK
A3 (EG)	SQF13221	INSTRUCTION BOOK
A3 (XL, XA)	SQF13400	INSTRUCTION BOOK
A5	SWKST11M-1	CORD (REMOTE CONTROL)
A6 ⚠ (XA)	RJP120ZBS-H	AC PLUG ADAPTOR

■ CABINET PARTS LOCATION



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ORDER NO. AD8806121A4

Service Manual

Cassette Deck

Dolby NR-Equipped
Stereo Double Cassette Deck

RS-T19

DOLBY SYSTEM

Color

(K)...Black Type

Area

Color	Area
(K)	(PA).....Far East PX.
(K)	(PE).....European Military.

Please use this manual together with the service manual for Model No. RS-D190W, Order No. AD8805069C8.

CHANGES

■ CHANGE IN REPLACEMENT PARTS LIST

Notes: 1. Mentioned in this parts list are only those different from Model No. RS-D190W (XA); all other parts are the same as for RS-D190W (XA).
2. Important safety notice.
Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

Ref. No.	Change of Parts No.		Part Name & Description	Remarks
	RS-D190W (XA)	➡ RS-T19 (PA, PE)		
CABINET AND CHASSIS				
6	SKMSD190WKXA	**SKMST19-KPA**	CABINET BODY ASS'Y	Change
7	SGYSD190W-KE	**SGYST19-KPA**	FRONT PANEL ASS'Y	Change
PACKING MATERIAL				
P1	SPG6210	**SPG6442**	CARTON BOX	Change
P3	SPS4964	**SPS4964-2**	PAD (BACK)	Change
ACCESSORIES				
A1 ⚠	SJA185	**SJA168**	POWER CORD	Change
A3	SQF13400	**SQF13419**	INSTRUCTION MANUAL	Change

*Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"Dolby" and the double-D symbol are trade marks of Dolby Laboratories Licensing Corporation.

Technics

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